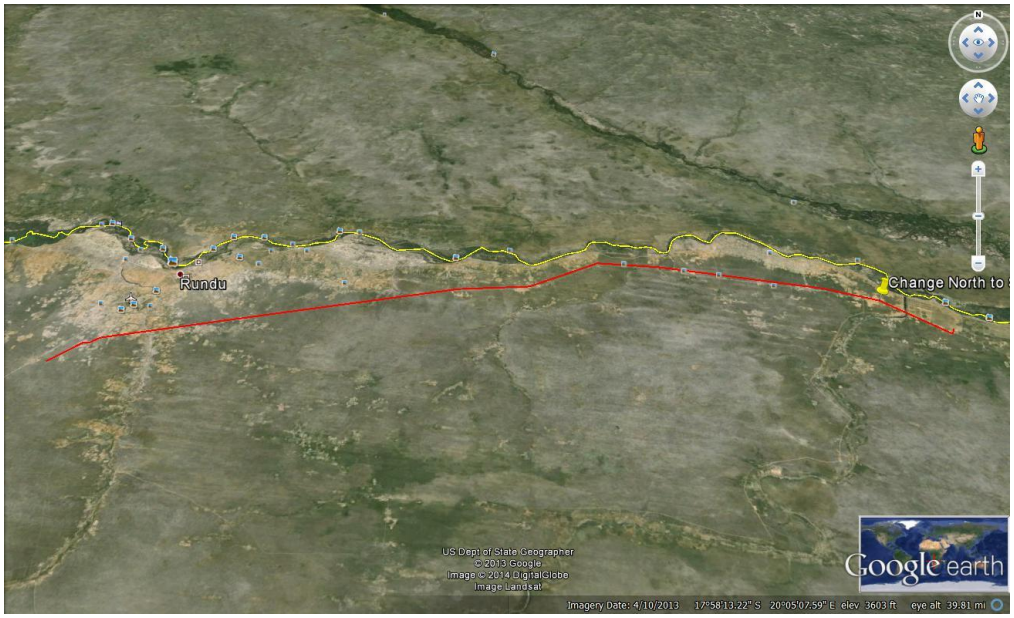
Environmental Management Plan

for

The proposed 132 kV transmission line from Rundu to Cuito and associated infrastructure



Document drafted for

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NamPower

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1. SCOPE

The purpose of this document is to provide regulations, regarding the environment, to any contractor whom NamPower appoints for any construction activity (this includes outside contractors as well as NamPower's own construction people).

This document is to form part of the contract, and all recommendations and constraints laid out in this document are enforceable under the general conditions of contract.

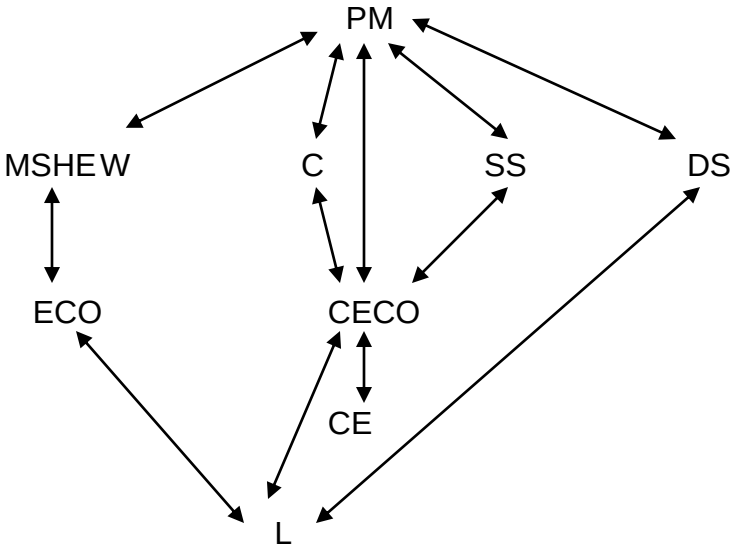
This management plan has a long-term objective to ensure that:

- Environmental management considerations are implemented from the start of the project
- Precautions against damage and claims, arising from damage, are taken promptly
- The completion of the project is not delayed due to problems with land owners arising during the course of construction

NamPower needs a commitment from the NamPower Project Manager and contractor on the following issues:

- To take into consideration the landowners and their rights
- To always behave professionally on and off site
- To ensure quality in all work done – technical and environmental
- To resolve problems and claims arising from damage immediately, in order to ensure a smooth flow of operations
- To underwrite NamPower's environmental policy at all times
- To use this Environmental Management Plan for the benefit of all involved
- To preserve the natural environment by limiting destructive actions on site

1.1 Reporting structure



PM : NamPower project manager

MSHEW: Manager: SHEW

C : Contractor

DS : District supervisor

SS : NamPower site supervisor

ECO : NamPower environmental control officer

CECO: Contractor environmental control officer

CE : Contractor employees

L : Landowners

2. INTRODUCTION

Construction activities can have a major impact on the environment. It is thus crucial to take better precautions, in order to ensure that environmental damage is minimised. Though one cannot eliminate all damage, one can take certain steps to reduce the damage. These steps can only be successful if the Contractor makes a concerted effort and if NamPower make use of proper planning and enforcement.

This document presents the General Environmental Management Plan (GEMP) for NamPower. The objective of this GEMP is to achieve sound safety, health and environmental performance (SHEW). The aim of the document is to demonstrate to authorities and stakeholders that activities comply with legislative environmental quality objectives.

The route evaluation suggested a number of route changes for consideration by NamPower, and 1 km buffer zones were generally established around homesteads, tourism establishments, dams, vleis and pans, from cliff faces and isolated inselbergs, as well as from archaeological sites. In this way, many potential environmental impacts could be effectively addressed.

This document is not site specific. It is thus necessary to draft an additional annexure for each project, stating the special conditions for that area, and these conditions along with the GEMP will then contain the environmental regulations for each project. Though this document is not site specific, it is an official NamPower document and the contractor is contractually obligated to fulfil all the conditions stipulated in this document.

This document will only address those issues related to the social and natural environment. A document dealing with the technical specifications will also be drafted and this document will deal with all the technical aspects.

2.1 Roles and Responsibilities

1. Project Manager

- Is responsible for the enforcement of the EMP
- Must make sure that SHEW requirements are included in the tender documents sent to the contractor
- Must ensure that a SHEW clause is included in the contract document and communicated to the contractor before the inception of the project.
- Must ensure that the contractor remains in compliance with the requirements of this EMP, through regular communication and monitoring.
- Ensure that all activities on site are adequately planned and restricted to designated areas and to minimize the footprint of the development area.
- Ordering the removal of person(s) and/or equipment not complying with the EMP specifications.
- Ensuring that all recording relating to compliance monitoring shall be kept on the site for inspection by relative competent authority.

2. NamPower SHWE section

- Assist the Project Manager in ensuring the contractor remains in compliance with this EMP and ensuring that environmental authorizations and permits have been obtained.
- Provides SHEW inductions for the contractors and their employees.
- Assisting the Contractor in finding environmentally responsible solutions to problems.
- Organize and implement monitoring and audit functions, in consultation with the Project Manager.
- Advising the removal of person(s) and/or equipment not complying with the EMP specifications
- Recommending and issuing fines for transgressions of site rules and penalties for contravention of the EMP
- Regular site inspections of all construction areas with regard to compliance with the EMP.
- Undertaking a continual review of the project specific EMP and recommending additions and/or changes to the document.
- Report back to the Project manager on contractor compliance to the EMP before the project close-off and final payment is made to the contractor

3. Contractor

- Is responsible for the implementation of the EMP
- Ensuring all tasks undertaken under the scope of work, are in accordance both with NamPower's SHEW policy as well as to the requirements of this EMP.
- Putting in writing a system of communication, in which all incidents and accidents are reported to the SHEW section.
- Ensuring that all employees receive a SHEW induction before the start of the project and keeping records of all environmental training sessions, including names, dates and the information presented.
- Ensuring that the work being done does not create a nuisance to the residents or animals on the property. If the contractor deems to continue work after the usual working hours, in the evenings and at night or over weekends, he must obtain the landowner's permission before proceeding with such work.
- Maintaining open and direct lines of communication between the Project Manager, NamPower and the Interested and Affected Parties (IAPs),ith regard to environmental matters.

The contractor shall notify NamPower of the following:

- Conflicts arising with any landowner / representative.
- Any special conditions requested by a landowner / representative.

The employer has the right to ban any employees from the site, which have not attended SHEW induction, until the time that they receive induction. The employer also has the right to stop all construction activities if it is found that a gross violation of the EMP is taking place.

Lines of communication should always be open to ensure proper and timely reaction to complaints. The reputation of both the contractor and NamPower is at stake and should be the drive for everybody involved to perform in excellence.

The concept of sustainability, sustainable development and the Triple Bottom line should be kept in mind at all times during the project. This will ensure that the three main issues of each project, namely: environmental issues, social issues and financial issues, are always in balance and that not one of them takes precedent over the others.

All rehabilitation work to the environment, that needs to be done, will be done at the expense of the contractor.

(Wherever the term employer is used, it should be assumed that the entity being addressed is NamPower.)

3. SOCIAL ENVIRONMENT, HEALTH AND SAFETY

No.	Aspect/Issue	Management Measure	Management Objective & Measurable Targets
3.1	**Health, Safety and Security**	3.1.1. The Contractor must adhere to the regulations pertaining to Health and Safety, including the provision of protective clothing. 3.1.2. Failing to do so may result in the contract being ended with immediate effects. 3.1.3. Dust protection masks must be provided to staff members if they are exposed to working in dusty environments. 3.1.4. Safety goggles will be provided if site conditions warrant the use of eye protection against dust and other debris. 3.1.5. Hearing protection equipment shall be provided to all employees working in high noise environments. 3.1.6. Portable water shall be available to workers to avoid dehydration. This water should be of acceptable standards to avoid any illness. At least 5 letres of drinking water per person per day should be made available during construction. 3.1.7. Well shaded proper eating areas should be provided by the contractor. 3.1.8. The Contractor must enforce relevant Health and Safety Regulations for the specific activities. 3.1.9. The Contractor should also comply with relevant Labour Laws as stipulated by the Labour Act. 3.1.10. All restrictions, barriers and signage on site and on routes to the project site shall be adhered to, this includes speed limits and no-go areas.	

		3.1.11. Only authorized personnel will be allowed on site. 3.1.12. Barriers and warning signs will be used to keep people and animals away from hazardous structures and excavations. All excavation must be barricaded to prevent injury to people and wildlife. 3.1.13. Contractors must be aware of the dangers caused by environmental conditions, e.g. poor visibility due to fog, dust storms and heat. 3.1.14. All possible steps shall be taken to minimize the disruption of traffic flow in the area of the substation. 3.1.15. No- go areas: 3.1.15.1 Contractors must display a map of the construction footprint (surface layout plan) in their site office which clearly indicates their construction area, laydown area and rest area, waste management site, ablution facilities and potable water points and existing infrastructure on site. 3.1.15.2. All areas falling outside the construction footprint are considered no-go area. No activity outside the demarcated area is permitted, on foot or by vehicle. All monitoring sites are also considered no-go areas. 3.1.16. Emergency response: 3.1.16.1 Risk assessment must be conducted before the commencement of any new activity on site. 3.1.16.2. Contractors must display the emergency contact numbers at their site office and work areas. 3.1.16.3. Contractors and their employees must familiarize themselves with the relevant Emergency Response	

		Procedures. 3.1.16.4. All incidents and accidents must immediately be reported to the site manager.	
3.2	**Interaction with landowners** (Refer to Annex – Project Specific EMP Requirements)	3.2.1. Before work commences, NamPower should inform all affected landowners and authorities about the project, at least 14 days before the start of the project. 3.2.2. NamPower should secure all rights of way to cross over private properties. The contractors may not stray from the NamPower servitude. The contractor shall inform the owner or his legal representative before entering onto any private property, of his intention to do so and shall make such arrangements with such owner or his legal representative as may be necessary to ensure free and unhampered entry to, and movement on or over the property concerned, for the duration of the project. This should be done at least one month in advance and written proof of such communication should be available at all times. 3.2.3. Whenever reasonably possible, the contractor shall meet with the landowner / representative of the property, introduce himself and the company he represents and explain the scope of the work. The landowner / representative must have knowledge of the planned route and duration of work on the property prior to the commencement of the work. This shall be done in due courtesy to the owner / representative. 3.2.4. The contractor must ensure that the owner or his legal representative fill in forms containing the following information, before and after the contractor has worked on the property (these forms must be presented by the contractor to NamPower, whenever the company requests it) and a copy shall be handed to NamPower at the end of the project. Before entry, to be completed and signed by the farm owner:	*Management objectives in terms of interaction with landowners:* • Minimise complaints from landowners • Prevent litigation due to outstanding claims • Successful completion of the contract and all landowners signing release forms • Maintain good relations with landowners *Measurable targets:* • All claims investigated and settled within one month • No litigation due to unsettled claims • All landowners signing release forms within one month after completion of the contract • No delays in the project due to landowner interference

		• Activities to be conducted on the farm (e.g. camping, construction etc.) • Specific conditions to be met on the farm • Dates when entry is needed • Farmer's signature (if the farmer or his legal representative does not agree to sign the form, this must be noted on the form along with a list of names of all the people present at the meeting) • Contractor's signature of commitment to adhere to the requirements Upon leaving the farm, to be completed and signed by the farm owner: • Remarks on compliance and misconduct • Issues still to be resolved 3.2.5. The success of the project depends on good relations with the landowners. Thus, the landowners must have knowledge of any changes to the construction and maintenance programme that might occur, but only if they are affected by it. 3.2.6. A system of communication must be devised by the contractor and made available to NamPower, in order to inform NamPower about all incidents and accidents (including those affecting the environment) and injuries sustained. 3.2.7. Appropriate contact numbers shall be made available to the landowner, to ensure open channels of communication and prompt responses to any queries and claims. 3.2.8. The rights if the landowner shall be respected at all times and all staff shall be sensitised to the fact that they are working on private property. 3.2.9. Where lines cross an inhabited area, all the necessary precautions shall be taken by the contractor to safeguard the lives and property of the inhabitants.	

		3.2.10. The contractor shall not interfere, under any circumstances, with build infrastructure belonging to the landowners. No construction worker is allowed to access any of the neighboring properties without the direct consent of the property owner. 3.2.11. Construction activities shall be limited to daylight hours only and no noisy activities may be carried out during the night. Campsite must be placed in order to limit noise to farm workers and residents in the area. Any noise complaints received must be recorded and remedial action taken. 3.2.12. A register shall be kept of all complaints from landowners. All claims shall be handled immediately to ensure timely rectification. 3.2.13. Contractor and their personnel must treat members of the local communities and their traditions with respect. The Contractor is wholly accountable for his workforce transgressions. 3.2.14. Contractor or his personnel may not build informal housing at construction site or any other areas around without official proof of tenure.	
3.3.	**Access to private property** (Refer to Annex – Project Specific EMP Requirements)	3.3.1. The movements of the Contractor, subcontractor, or their employees, are restricted to the areas of the servitude and any further encroaching on private property at any time are subject to the owner's permission. 3.3.2. Roads marked with no entry signs, shall not be used. 3.3.3. Fences or gates of landowners shall not be damaged when gaining access to the servitude. 3.3.4. Gates and locks shall be regularly monitored to ensure that they are secure.	*Management objectives in terms of access to private property:* • Properly installed gates to allow access to the servitude • Minimise damage to fences • Limit access to NamPower and contractor personnel with gate keys *Measurable targets:*

		3.3.5. Gates to be left as they are found. If found opened, they must be left open, and if closed, they must be closed again upon entry. 3.3.6. If no gates are available at crossing points, landowners shall be informed prior to the loosening and crossing of fences. Fences loosened and crossed shall be immediately restored to its original state and to the complete satisfaction of the landowner. 3.3.7. All gates shall be fitted with locks and kept locked at all times during construction. NamPower must be supplied with three copies of these keys. Once the contractor has left the site, all gates shall be fitted with NamPower locks.	• No transgression of fencing procedures as mentioned above • No damage to fences and subsequent complaints from landowners • All gates equipped with locks and kept locked at all times to prevent unauthorised entry of people and the uncoordinated movement of animals • All fences properly tied of to gate posts • All gates properly and neatly installed according to specifications • No complaints about open gate.
3.4.	**Archaeological and Cultural sites** (Refer to Annex – Project Specific EMP Requirements)	3.4.1 Before construction, the contractor shall inspect the area for any heritage sites that may be of significance. These would include any mounds, walls packed of stones, gravesites etc. If any such site is found, the area shall be cordoned off, and NamPower must be informed, who will, in turn, inform the Monuments Council, MET and/or an Archaeologist. 3.4.2 Should a heritage site or archaeological site be uncovered or discovered during construction activities, cease any work in immediate vicinity, clearly mark the area and take GPS readings. The contractor or staff immediately should notify the National Heritage Council in terms of the National Heritage Act (27 of 2004). NamPower must call in relevant experts to determine the significance of the sites and whether work can proceed without damage to findings.	*Management objectives in terms of archaeological and cultural sites:* • Protection of archaeological sites and land considered to be of cultural value • Protection of known sites against vandalism, destruction and theft • The preservation and appropriate management of new archaeological finds, should these be

		3.4.3 All cultural sites should be clearly marked and left undisturbed during bush-clearing, construction and maintenance activities. 3.4.4 Graveyards may not be intruded upon during construction, operation and maintenance activities 3.4.5 No graves shall be moved, and the surveyor shall maneuver the line in such a way to prevent any removal of historic sites. 3.4.6 Sites of historical interest, in close proximity to the servitude, shall be protected and treated with respect. 3.4.7 Section 48 of the National Heritage Act (27 of 2004) sets out the procedure for application and granting of permits required in the event of damage to a protected site occurring as an inevitable result of development. NamPower is responsible for obtaining such permits. 3.4.8. All heritage sites are considered a no-go area and will be demarcated with signage and/or barriers. During induction, all construction staff will be made aware of archaeological heritage resources around the construction area. 3.4.9. Refer to the National Heritage Act (27 of 2004) for what is considered a heritage resource.	discovered during construction • Protection of sites and land considered to be of cultural value *Measurable targets:* • No destruction of or damage to known sites • Management of existing sites and new discoveries • No litigation due to the destruction of sites
3.5.	**Social impacts** (Refer to Annex – Project Specific EMP Requirements)	3.5.1. Personnel should limit their contact with farm workers and other permanent residents of the area. 3.5.2. Personnel should be properly educated about the impact of HIV / AIDS 3.5.3. Any person making himself guilty of violence, harassment or any other activity deemed inappropriate by the landowner, must immediately be removed from the site.	*Management objectives in terms of social impacts:* • Minimise incidents involving contractor employees *Measurable target:*

		3.5.4. The distribution or supply of intoxicating liquor or drugs of any kind by the employees of the contractor or any contractor is strictly prohibited.	• No complaints received by landowners concerning inappropriate behaviour of contractor employees
3.6.	**Environmental awareness and training**	3.6.1. All persons working on site will need to undergo induction before visiting, residing or commencing work on site. Environmental awareness induction will be combined with the health and safety induction. NamPower SHEW section is responsible for giving this induction. 3.6.2. All persons working on site or visiting the site will be required to sign a register indicating that they have understood, and will adhere to a code of conduct with respect to environmental compliance. 3.6.3. The NamPower project manager and the contractor shall ensure that adequate environmental awareness training of all Contract personnel take place: i.e. all subcontractors and all employee levels. 3.6.4. Regular meeting shall be scheduled between the Contractor, Sub-contractor, their CECO, NamPower project manager and the SHEW manager to recap on environmental on environmental training and awareness or to bring new issues to the CECO's attention. 3.6.5. Continuous awareness training shall be conducted by the Contractor on specific issues during toolbox talks; either as a selected environmental topic of interest, or a discussion on non-compliance, incident or even that has occurred. Whenever necessary, advice/suggestions from SHEW can be requested. 3.6.6 As a minimum, training should include:	

		• Explanation of the importance of complying with the EMP, • Discussion of the potential environmental impacts of construction activities, • Benefits of improved personal performance, • Employees' roles and responsibilities, including emergency preparedness, • Explanation of the mitigation measures that must be implemented when carrying out their activities, • Explanation of the Specific EMP and sensitive areas, • Explanation of the management structure of individuals responsible for matter pertaining to the EMP, • Explanation of penalty clauses for contractors or employees that stray from their environmental obligations.	

4. PHYSICAL ENVIRONMENT

Site establishment shall take place in an orderly fashion and all facilities shall be installed at campsites before the main workforce move onto the site. A permit is required when entering parks such as the Namib Naukluft and Dorob National Park for work purposes according to the Nature Conservation Ordinance (1975) as amended through the Nature Conservation Amended act of 1996. NamPower and/or the contractors shall obtain such a permit before work commences and the full set of rules of that particular Park will be applicable to both NamPower and the contractor during the project.

A method statement is required from the contractors that include the layout of the camp, management of ablution facilities and wastewater management.

No.	Aspect/Issue	Management Measure	Management Objective & Measurable Targets
4.1.	**Waste management** (Refer to Annex – Project Specific EMP Requirements)	4.1.1. Separate waste containers must be provided for hazardous waste, potentially hazardous waste, general waste and construction waste. Hazardous / harmful waste must be clearly distinguishable as such. 4.1.2. Containers shall be provided with lid or netting to prevent the waste from being removed by scavengers or wind. Waste	*Management objectives in terms of waste management:* • To keep the servitude neat and clean • Disposal of rubble and refuse in an appropriate

		containers should not be over-filled. 4.1.3. A waste pit for biodegradable materials may be used at the campsite. Upon leaving the site, this pit must be covered with at least one metre of soil. 4.1.4. No waste may be burned on site. All waste products must be moved to the nearest waste dump at regular intervals of at most two weeks. 4.1.5. Illegal dumping and littering shall not be tolerated. Cigarette butts are waste and must be disposed of in the bins. 4.1.6. Sites where waste is stored must be adequately protected from animals that might frequent the area. 4.1.7. No concrete waste may be left unburied at the site. Care should be taken to ensure that this buried waste is not an aesthetic problem to the landowner or a technical constraint during maintenance. 4.1.8. Ensure that the campsites, the work site and the surroundings are kept in a neat condition at all times and that windblown litter is cleared on a daily basis. 4.1.9. Lunch containers must be reusable and recyclable. Stryrofoam containers are prohibited. 4.1.10. Impermeable temporary septic tanks are to be provided in sufficient quantity to manage waste water. Waste water to be disposed of according to waste management specification. Permits for disposal at external sewage sites and proof of disposal shall be obtained.	manner • Minimise letigation • Minimise landowner complaints *Measurable targets:* • No rubble or refuse lying around on site • No incidents of litigation • No complaints from landowners • No visible concrete spillage on servitude • No signs of visible litter in the campsites or on the servitude
4.2.	**Hazardous material**	4.2.1. A register shall be kept on all hazardous substances and be available for inspection at all times.	*Management objectives in terms of hazardous materials:*

	(Refer to Annex – Project Specific EMP Requirements)	4.2.2. Storage areas shall display the required safety signs. 4.2.3. Fuels must be stored in an adequate bunded area. Bundwalls may be made from sandbags. The area within the bundwalls should be lined with a plastic layer covered with a layer of at least 50 mm of sand. The bundwalls must be high enough to contain any major spills that may occur. 4.2.4. Hazardous substances should be stored in a well-ventilated area, and behind lock and key. 4.2.5. Used oils, fuel, paints, grease and solvents should be stored in drums or other suitable containers, which must be labelled, sealed and removed from the site to an appropriate disposal site or recycling facility. 4.2.6. Areas shall be monitored for spills and any spills shall be contained, cleaned and rehabilitated immediately. Waste matter from or containing chemicals, oils, paint solvents, etc. may be poured into drains and not onto the ground. 4.2.7. Oil contaminated soil must be collected, stored and removed for disposal at an appropriate waste storage facility. The area, from which the contaminated soil was taken, must be filled with new soil. The new soil must be free of contamination, and should not be taken from a spot within a 100-metre radius of where the spill occurred. 4.2.8. In the event of a hazardous spill on site or during transportation of these substances to or from the site, the followings actions must be taken: 4.2.8.1. Stop the source of the spillage immediately 4.2.8.2. Immediately contain the spillage by shoveling a soil bund wall with around it.	• Thorough management of hazardous waste materials • The protection of the natural integrity of the environment • Adequate staff awareness of procedures and Emergency Response Plans. *Measurable targets:* • Zero spills • No environmental pollution occurring • Management according to procedures

		4.2.8.3. Absorb the oil spill as quickly as possible with the supplied spill kit. Drip trays must be placed beneath the sump, and any other leak, of all parked vehicles to capture any spills. 4.2.8.4. Report the spill to the site supervisor. 4.2.8.5. In case of a major spill the Manager: SHEW (NamPower) must be contacted and arrangements must be made for the implementation of the necessary clean-up activities. 4.2.8.6. Collect contaminated soil, water and other materials and dispose of it at an appropriate hazardous waste storage site 4.2.9. Any rehabilitation activities needed because of an oil spill will be at the cost of the contractor. 4.2.10. Have sufficient firefighting equipment available at the campsite. 4.2.11. Ensure that all staff are adequately protected and educated about the safe and proper handling and disposal of hazardous substances. Contractors must supply the relevant/necessary emergency spill kits at the site where hazardous materials are stored and used. 4.2.12. Hazardous substances should not be stored in an area that is situated within the migratory path of large mammals.	
4.3.	**Temporary Campsites** (Refer to Annex – Project Specific EMP Requirements)	4.3.1. Should the contractor wish to camp on private or public property, he will arrange the exact campsite , remuneration, dates of occupation and any special conditions with the relevant landowner at least one month prior to site establishment. 4.3.2. Campsites should not be located in an area that is situated within the migratory path of large mammals.	*Management objectives in terms of temporary campsites:* • Ensure that proper sanitation is achieved • Control over actions and activities is close proximity

		4.3.3. The location of campsites must be discussed with the landowner and the contractor may only use those areas indicated by the landowner, as campsites. 4.3.4. Care should be taken to protect campsites from large mammals, without causing harm or injury to the animal. 4.3.5. Temporary campsites are to be located close to existing tracks, preferably on already disturbed ground. No campsite will be set up at or near any MET tourist campsite. 4.3.6. Throughout the period of the contract, activities are to be restricted to the designated area. 4.3.7. The Contractor is responsible for sourcing, erecting and maintenance of adequate ablution facilities. Adequate ablution facilities must be provided to the staff (one toilet for every 15 females and one toilet for every 20 males). These facilities may not be located within 100m of any river, stream channel, pan, dam or borehole (even if the water source is dry) and should be properly maintained in a hygienic and good working order to the satisfaction of the project manager. 4.3.8. The staff should be properly trained on the procedure that should be followed when no ablution facilities are available. 4.3.9. On site waste management facilities are to be provided. 4.3.10. Fire extinguishers, first aid kits and any other relevant safety equipment must be easily accessible at all times. Employees must be trained in first aid and the use of fire extinguishers	to inhabited areas • Campsites and toilet facilities maintained in a neat and hygienic condition *Measurable target:* • No complaints from landowners regarding sanitation • No complaints from landowners • No damage to private property
4.4.	**Maintenance of vehicles**	4.4.1. Vehicle maintenance and refuelling activities must be conducted within a bunded area. No vehicle may be left unattended while refueling, fuel delivery or dispensing takes place.	*Management objectives in terms of vehicle maintenance:*

	(Refer to Annex – Project Specific EMP Requirements)	4.4.2. Vehicle maintenance and refuelling activities may not be carried out outside the campsite, except in cases of emergency. 4.4.3 The Contractor should ensure that all construction vehicles and equipment are maintained in good working order to limit gaseous and particulate emissions or excessive noise. 4.4.4. During servicing of vehicles, especially during emergency veld repairs, a suitable drip tray shall be used to prevent oil spills. 4.4.5. In the event of a breakdown in the veld any oils spills shall be cleaned up immediately. The following shall apply: 4.4.5.1. All contaminated soil shall be removed and placed in containers. Contaminated soil can be taken to one central point, where soils can be treated or removed for disposal at an approved site. 4.4.5.2. Bigger spills can be treated on site with absorbent chemicals such as Peat-Sorb. 4.4.5.3. Major spills must immediately be reported to the project manager and the contractor shall employ a specialist contractor for the bio-remediation of contaminated soil.	• Prevention of pollution of the environment • Minimise chances of transgression of national legislation *Measurable targets:* • No pollution to the environment • No litigation due to the transgression of national legislation • No complaints from landowners
4.5.	**Bush clearing** (Refer to Annex – Project Specific EMP Requirements)	4.5.1. The objective of bush clearing is to trim out or clear the minimum number of trees and bush necessary for the safe electrical operation of the power line. 4.5.2. Vegetation shall only be cut to allow for the passage of the pilot-cables and headboard. No vegetation clearing shall be allowed across ravines and gullies, as this vegetation will very rarely interfere with the clearance to a strung conductor.	*Management objectives in terms of bush clearing:* • Minimise damage to vegetation • Keep servitude as natural looking as possible

		4.5.3. A strip, only wide enough to allow for vehicular movement, shall be cleared for access roads. 4.5.4. While clearing the trees near the power line route, falling distance of any tree or trees, which are likely to fall on the conductors of the power line, as has been identified by visual inspection, shall be considered. Such "high risk" trees, or its branches, shall be felled only under supervision of a NamPower representative. 4.5.5. It is imperative that while maintaining the specified clearances, all tree branches capable of producing off-shoots in due course shall be cleared in such a way that it will be impossible for any of the off-shoots of these trees to grow towards the power lines. 4.5.6. Near the power line, overhanging branches are impermissible. 4.5.7. Big trees with large root systems shall be cut manually and removed, as the use of a bulldozer will cause major damage to the soil when the root system is removed. Stumps shall be treated with an approved herbicide. 4.5.8. Environmental sensitivity shall be taken into account when clearing is done. Laws protect environmentally sensitive areas (such as wetlands, river crossings, areas of endemicity etc.) and it is essential to obtain permits before the undertaking of any activities in such areas. The sketch plans should indicate existing or potential problem areas identified during site inspection of the power line route. 4.5.9. The contractor, NamPower and the landowner prior to bush clearing shall discuss all environmental factors. Should there be any changes to the route due to environmental factors, NamPower must first be consulted.	• Minimise interference by vegetation to flow of electricity • Minimise possibility of erosion due to removal of vegetation • Minimise removal of plant material on river and stream embankments • Eradication of alien invader species *Measurable targets:* • Only 3 m vegetation cleared for the maintenance road • No trees and vegetation removed unnecessarily • No vegetation interfering with structures and statutory distances upon completion of the contract • No de-stumping of vegetation on river and stream embankments • No visible erosion scars three months after the completion of the contract due to vegetation removal • No litigation due to unauthorised removal of vegetation • All alien invaders

		4.5.10. All the felled branches, cleared bushes/shrubs and tree stubs etc. shall be removed from the line route and carted away in order to allow the free movement of maintenance vehicles and crews. This plant material may however not remain in heaps and should be scattered over the terrain. When needed, this plant material can also be used to combat soil erosion. 4.5.11. If a cleared track is required along the route of the line (to allow for the free movement of vehicles) all protruding sharp rocks must be cut level or covered with imported gravel, leveled and compacted. Holes must be filled with gravel, leveled and compacted. 4.5.12. No burning of vegetation is allowed as an alternative to cutting of vegetation. 4.5.13. To minimise soil erosion, vegetation should be trimmed as opposed to the complete removal of vegetation. 4.5.14. Manual bush clearing, as opposed to clearing using a bulldozer, is preferable, in order to minimise vegetation loss and hence reduce the risk of soil erosion. 4.5.15. Where there are no real obstacles, where vehicles can simply drive over an area, or where obstacles can simply be removed by hand, blading shall not be used. 4.5.16. When manual bush clearing is impractical, blading shall be used, but the blade shall be kept approximately ten centimeters from the soil surface to minimise the impacts to the soil surface and top layer, small plants and the root systems of larger plants. 4.5.17. Where clearing is done near a river, the contractor must ensure that no felled bushes/branches/shrubs are left behind in the riverbed.	eradicated from the servitude

		4.5.18. No bush clearing shall be allowed on river- and stream banks unless the line crosses the river or stream and this vegetation poses a risk to the line. In such cases, NamPower should be consulted on the action to be taken. 4.5.19. A permit is required from the Ministry of Environment and Tourism for the removal of vegetation within 100m from a riverbed (in terms of the Forest Act of 2001). NamPower is responsible for applying for such a permit. 4.5.20. No bush clearing shall be allowed on river-and stream banks. Where the power line crosses river beds, an attempt should be made to prune riverine vegetation (over 4 m in height) as opposed to its removal. 4.5.21. The National Botanical Research Institute (NBRI) staff should be tasked to do rescue missions of any Aloe populations and/or succulents encountered while doing the final survey of the route. 4.5.22. No bush clearing is allowed outside the servitude. 4.5.23. Reasonable precautions shall be taken to avoid damage to land, crops, grazing fields, farm gates or property. 4.5.24. No cultivated lands, fences or structures (permanent or temporary) may be removed or damaged, unless NamPower's written consent for doing so has been obtained. 4.5.25. All damage to commercial crops shall be recorded immediately and a photographic record of such damage must be kept. 4.5.26. Alien species and declared weeds must be identified and eradicated during rehabilitation.	
4.6.	**Access roads**	4.6.1. Off-road driving and the creation of tracks, other than those	*Management objectives in terms*

	(Refer to Annex – Project Specific EMP Requirements)	approved by the relevant landowner and/or NamPower, are prohibited and will be regarded as unwanted tracks and unwarranted disturbed areas. All unwanted tracks and unwarranted disturbed areas must be rehabilitated at the cost of the contractor, before the contract will be considered complete. 4.6.2 In cases where a creation of new track(s) is necessary, the contractor shall indicate to NamPower SHEW Section a single track that will be used during construction. The contractor will be compelled to use that and only, therefore the contractor must plan carefully to prevent unnecessary or double tracks. When turning, make use of 3-point turns instead of circular turns. 4.6.3. All conditions that the landowner may have shall be noted and adhered to. All vehicle movement shall be along the existing roads and access tracks – where possible. Vehicles should be driven at moderate speeds and special care should be taken, especially in wet weather, to avoid eroding tracks. Multiple tracks (i.e. parallel tracks) are to be avoided at all times. 4.6.4. Damage to access roads due to the movement of vehicles must be reported to the Project Manager and the landowner. Large vehicles should have right of way and light vehicles should leave the road to allow for an oncoming heavy vehicle to pass. All repairs must be done immediately and to the satisfaction of the landowner. 4.6.5. No roads shall cut through a river and stream banks as this may lead to erosion. If no other alternative is available, care should be taken to stabilise the bank. Only single track crossings will be allowed at stream banks, and no large permanent vegetation may be removed in the drainage lines. 4.6.6. Existing drifts and bridges may be used if the landowner gives his consent. Such structures shall then be thoroughly examined for strength and durability before they are used.	*of access roads:* • Minimise damage to existing access roads • Minimise damage to the environment due to construction of new access roads • Minimise loss of topsoil and enhancement of erosion *Measurable targets:* • No claims from landowners due to damage on existing access roads • No erosion visible on access roads, three months after completion of construction • No loss of topsoil due to runoff on access roads • No unwanted parallel tracks and unwarranted disturbance.

		4.6.7. New drifts and bridges shall only be constructed with the approval of NamPower and the landowner. 4.6.8. No roads shall be constructed on slopes of more than 20% unless such roads follow contours. In such areas, the contractor shall use existing roads or alternative methods of construction. 4.6.9. The installation of concrete pipes and drifts, to facilitate access, shall be at the discretion of the project manager. 4.6.10. Dangerous crossings shall be marked and speed limits shall be enforced (refer to 5.7 for further details). 4.6.11. All agreements reached should be documented and signed and no verbal agreements should be made.	
4.7.	**Infrastructure** (Refer to Annex – Project Specific EMP Requirements)	4.7.1. No telephone lines shall be dropped during the stringing operations 4.7.2. Where pipe lines are found along the route, the depth of the pipes under the surface shall be determined to ensure that proper protection is afforded to such structures 4.7.3. Any damage to access roads must be reported immediately and any damage must be rectified as soon as possible. 4.7.4. Upon completion of the project all roads shall be repaired to their original state 4.7.5. On gravel roads, the speed limit for trucks will be 40 km/h and for other vehicles, it is 60 km/h – 80 km/h depending on the condition of the road. 4.7.6. Power cuts to facilitate construction and especially stringing must be carefully planned. If possible, the disruptions must be kept to a minimum and should be well advertised and	*Management objectives in terms of infrastructure:* • The control of temporary or permanent damage to plant and installations • Control of interference with normal operation of plant and installations • Securing of the safe use of infrastructure, plant and installations *Measurable targets*: No unplanned disruptions of service No damage to any plant or

		communicated to the landowners at least one month in advance. 4.7.7. Care must be taken not to damage irrigation equipment, lines channels and crops. 4.7.8. The location of airstrips should be carefully considered and the air safety laws should be kept in mind.	installations No complaints from authorities or landowners No litigation due to losses of plant, installations and crops.

5. BIOLOGICAL ENVIRONMENT

No.	Aspect/Issue	Management Measure	Management Objective & Measurable Targets
5.1.	**Rivers, Vleis and Pans**	5.1.1. Surface and ground water shall not be polluted under any circumstances. Storm water shall be managed to ensure that it does not become polluted. 5.1.2. All hazardous substances at the site shall be adequately stored and accurately identified, recorded and labelled 5.1.3. Temporary toilet facilities (preferably chemical toilets) used at the camp site shall be sited away from any riverbed, vlei or pan, even when dry. 5.1.4. Permanently wet areas should be shown on the spanning sheets. No vehicles shall be allowed in such areas. Only existing roads through such areas may be used with the approval of the landowner. 5.1.5. No equipment that can cause irreparable damage to wet areas shall be used. 5.1.6. There must be a buffer line of at least 15m between the	*Management objectives In terms of rivers, vleis and pans:* • Avoid permanently wet areas to prevent damage • Minimise damage to river and stream embankments • Minimise erosion of embankments and subsequent siltation or rivers and streams *Measurable targets:* • No damage to wetland areas and river banks • No access roads through river and stream banks • No visible erosion scars

		servitude of the power line and any water-containing body (rivers, vleis and pans), if the power line happens to run parallel to it. 5.1.7. A stream or riverbed should not be obstructed with vegetation or any other materials cleared during bush clearing. (Also refer to point 4.5.16 and 4.5.17. Also refer to point 4.6.4 and 4.6.5)	on embankments once construction is completed
5.2.	**Water resources**	5.2.1. Care must be taken to ensure that the pollution of water does not occur, as has been stated under previous points in this document. 5.2.2. Water must be used sparingly and the Contractor must record and report water use monthly. 5.2.3. Naturally occurring water sources may not be used for any personal hygiene -, washing – or recreational activities. 5.2.4. Water may only be taken from private, communal or government-owned property on a basis agreed upon between the Contractor and such owner. 5.2.5. Should the contractor be required to use water from a natural source, the contractor shall supply a method statement to that effect. 5.2.6. Do not mix concrete directly on the ground. Use plastic liners and mixing tray at all times. Remove waste concrete and sediment sludge to an appropriately designated storage area in order to prevent contamination during rainfall.	
5.3.	**Fauna**	5.3.1. Construction activities must be carefully planned so as not to interfere with the breeding seasons of sensitive species 5.3.2. Before construction starts, inspect the proposed power line routes for any signs of nests (raptors, ground-nesting species	*Management objectives in terms of fauna:* • Minimise disruption to farming activities

		such as Ludwig's Bustard, Gray's Lark and other species) and if possible, try to avoid disturbing breeding birds or their breeding sites. Nests may not be removed or damaged. 5.3.3. Young chicks and eggs may not be removed from the nests 5.3.4. Bird diverters shall be fixed to the line at the following sites: • Any site where the 350 kV HVDC line has bird diverters which are in aligned with the existing line • Where the proposed line crosses Omarambas • Where there is less than a 20 meter buffer between the two lines 5.3.5. No birds may be shot or caught. 5.3.6. All bird-power line interactions must be reported to the project manager, who will notify the SHEW section. In important bird areas, SHEW should monitor that section of the line during construction for any signs of bird mortalities resulting from the construction and operation of the line. Should collision start to occur regularly in any one of the area on the line, the relevant section(s) should be fitted with above measures (5.3.4). Monitoring surveys should be continued after completion of the line (i.e. after construction). 5.3.7. Construction activities must be planned carefully so as not to interfere with the breeding, calving and lambing season for most animal species 5.3.8. Termite mounds should only be disturbed if they pose a significant technical constraint. Only termite mounds inside the construction corridor should be demolished. 5.3.9. Care should be taken when demolishing the termite mounds, since many other animals, other than termites, live inside these mounds. Some of which can threaten the safety of people.	• Minimise disturbance of animals • Minimise disruption of breeding patterns • Minimise destruction of habitat *Measurable targets:* • No stock losses where construction is under way • No complaints from landowners or nature conservation • No litigation concerning stock losses and animal deaths • Bird flappers installed where necessary

		5.3.10. Underground burrows must not be flushed, closed up or destroyed, on purpose, even if within the servitude area. 5.3.11. Snaring, poaching, killing, taunting, collecting, smuggling, or abuse of animal wild or domestic animal is prohibited. NamPower shall enforce anti-poaching measures strictly and this should be emphasized during induction to contractors. If there is any reason to believe poaching may be taking place, enlist the services of the MET or the police to investigate further. 5.3.12. No domestic animals (such as cows, chickens, dogs, cats, goats or sheep) may be kept either at the campsite on the construction site since they can introduce diseases or interbreed with the animals occurring naturally in the area. 5.3.13. No domestic or wild animals belonging to the landowner, may be caught, chased, baited, fed or killed, unless written consent was given by the owner of the animal. 5.3.14. The use of light must be kept to a minimum, and where it is required, yellow lighting is to be used to reduce insect mortality. Vertebrates should be kept away from the lighted areas with appropriate fencing where feasible.	
5.4.	**Flora**	5.4.1. Large trees outside the servitude may not be cut down. 5.4.2. Contractors must supply their workers with sufficient amounts of fire wood; no live natural vegetation may be used for fire wood. 5.4.3. Any plant material removed during bush clearing may not be used by the contractor as fire wood, unless this material was bought from the landowner. 5.4.4. All plant materials removed from the cleared areas should be taken to the designated area(s) as agreed with the project	*Management objectives in terms of flora:* • Minimal disturbance to vegetation, where such vegetation does not interfere with construction and operation of the line • Prevention of litigation concerning removal of

		manager. Sites with small vegetation (grasses and shrubs of less than 1m) can be cleared with not more than 300mm of topsoil. 5.4.5. The removal of any economically valuable trees or bushes shall be negotiated with the land-owner and written consent must be given for the action. The landowner is to be compensated for these trees. 5.4.6. The removal of culturally important trees should be carefully considered and when the removal is deemed necessary, compensation should be arranged. 5.4.7. Protected and endangered tree species occurring in the servitude must be identified and the necessary permits must be obtained, if they are to be harmed. These species must be identified and discussed at least 3 months before the start of the project in order to arrange permits for their destruction. 5.4.8. Trees is close proximity to work areas should be demarcated with a physical barrier at least 2m from the tree trunk. 5.4.9. All alien invasive plants and declared weeds that occur in the servitude should be identified and eradicated. 5.4.10. Powerline routes must be scouted and marked out ahead of the construction crew and all reasonable efforts made to avoid nesting/breeding sites and large trees. Scout the area to identify any protected or sensitive species that would require relocation, especially in highly sensitive habitats. An ecologist/botanist shall advice on possible rescue and relocation of concerned vegetation.	vegetation *Measurable targets:* • No litigation due to removal of vegetation • No unplanned or unnecessary removal of trees, especially economically valuable trees. • No public complaints with respect to vegetation removal.
5.5.	**Veld fire prevention**	5.5.1. Fires are to be limited to the campsite only, as this will reduce the fire hazard. Any cases of veld fires caused during the construction period must be reported immediately. Damage	*Management objectives in terms of veld fire prevention:*

		caused by these fires will be remedied by the contractor. 5.5.2. If the need to make a fire on route (along the line, at any place except the campsite) arises, such a fire must be made inside a container or on the ground, inside a shallow hole, surrounded by rocks. 5.5.3. All fires must be extinguished when there is not someone supervising it and all ash must be cleaned up. 5.5.4. Firefighting equipment must be kept in close proximity to the where work is taking place, at all times during construction.	• Minimise risk of veld fires • Minimise damage to grazing *Measurable targets:* • No veld fires started by the contractor's workforce • No claims from landowners for damage due to veld fires
5.6.	**Aesthetic quality**	5.6.1. Utmost care should be taken to limit the visual impact of the project on the environment. 5.6.2. High lying areas should be avoided for the erection of structures. 5.6.3. Construction activities, camp sites, service roads and waste sites, should not be located within 1 kilometre (minimum for hilly areas) of tourist lodgings or frequented tourist areas.	*Management objectives in terms of aesthetic quality:* • Minimise the visual impact of construction activities on the locality *Management target:* • Reduced complaints from landowners and visitors to the area about visual disturbances caused by power-lines
5.7.	**Soil conservation**	5.7.1. Utmost care should be taken to prevent erosion. Guidelines for service roads should be followed carefully. 5.7.2. In mountainous / rough terrain, the contractor shall be responsible for any reasonable prevention of soil erosion should either the landowner or NamPower require it.	*Management objectives in terms of soil management:* • Prevention of erosion • Scaring of the soil surface and land features must be

		5.7.3. Erosion and drainage problems must be minimised by avoiding tracks crossing contours at right angles. 5.7.4. Measures must be put in place to avoid erosion at river and stream channel crossings, and at places where existing erosion scars and dongas are encountered to avoid any further erosion at these points. 5.7.5. Deep ruts and inaccessible sections must be repaired to avoid vehicles having to drive around bad sections (i.e. mud, deep ruts and loose sand) thereby creating new tracks. 5.7.6. Vehicle tracks, particularly in areas of low rainfall, must be restricted to the width of the servitude or recognised access routes. All unnecessary tracks should be rehabilitated at the contractor's expense. In instances of damage outside of the servitude, the disturbed area should be re-modelled to, as far as possible, resemble previous conditions and fit in with the adjacent landscape; also at the contractor's expense. 5.7.7. After construction in sandy areas, the entire width of the servitude should be leveled. Dicing is a suitable means of achieving this. Leveling of the servitude width is required to ensure compaction by construction vehicle tracks is minimised as well as to reduce preferential flow paths during rainfall runoff. 5.7.8. Guidelines given previously in this document shall be closely followed to ensure that soil pollution does not occur. 5.7.9. Crossings of dongas and eroded areas shall be thoroughly planned. Water diversion berms shall be installed at donga crossings to ensure runoff water on the servitude does not run into dongas and cause an erosion hazard. 5.7.10. Disturbances of topsoil on tower sites with severe slopes shall	minimised • The disturbance and loss of topsoil must be minimised • All disturbed areas along the servitude must be rehabilitated • Minimise erosion damage on donga crossings • Minimise impeding of natural water flow • Minimise initiation of erosion through donga embankments • Minimise damage to topsoil and the environment at tower positions • Successful rehabilitation of all damaged areas *Measurable targets:* • Minimum loss of topsoil at any one site • No visible erosion scars three months after the completion of the project • No barren areas visible three months after the construction has taken place • All damaged areas successfully rehabilitated

		be minimised at all costs. At any tower site, where conventional foundations are installed, the contractor shall remove the topsoil (the top 10 cm of soil) separately and store it for later used during rehabilitation of such tower sites. 5.7.11. Slopes in excess of 2% must be contoured and slopes in excess of 12% must be terraced. Other methods of rehabilitation of tower sites may also be used. Contour banks shall be spaced according to the slope on tower sites. 5.7.12. The Contractor should control dust on site through the use of water or other suitable suppressants, but care should be taken to limit the amount of water or suppressants used in order to prevent contamination of surface water courses. 5.7.13. The Contractor shall ensure that increased run-off due to vegetation clearance and/or soil compaction is properly managed, and steps to be taken shall ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse. 5.7.14. Top soil muct be removed from areas to be disturbed and stockpiled as per the soil management plans/procedures. A maximum of 300mm of top soil shall be removed from all road and new power and powerline access roads and windrowed nearby for rehabilitation after construction. Top soil stockpile should not be more than 2m high.	• No disturbance to donga embankments • No erosion visible on donga embankments due to construction activities • No interference with the natural flow of water. • All disturbed areas successfully rehabilitated within three months of completion of the contract • All sandy areas levelled after construction

6. MONITORING, AUDITING AND PROJECT HANDOVER

The standard site documentation shall be used to keep records on site. All documents shall be kept on site and be available for monitoring and auditing purposes. The documentation shall be signed by all parties to ensure that the documents are legal.

Monthly reports shall be forwarded to the NamPower project manager, with all the information relating to the SHEW matters. The following key performance indicators must be reported on a monthly basis:

- Complaints received from landowners and the actions taken to address these complaints
- Environmental and safety incidents, such as oil spills, concrete spills accidents and incidents and the actions taken
- Incidents possibly leading to litigation
- Environmental damage that needs rehabilitation measures to be taken

The following documentation shall be kept on site:

- Access negotiations and physical access plan
- Training materials/topics covered during induction
- Signed attendance register during induction
- Complaints register and the remedies applied to such complaints
- Site daily diary
- Records of all remediation and rehabilitation activities
- Copies of the monthly reports (site inspection and monitoring reports included)
- Copy of the EMP

No.	Aspect/Issue	Management Measure	Management Objective & Measurable Targets
6.1.	**Monitoring and audits**	6.1.1. A monitoring programme shall be put in place in order to ensure compliance to the EMP, but also to monitor environmental issues and impacts that have not been accounted for in the EMP, that are, or could, results in significant environmental impacts for which corrective actions are required. 6.1.2. The requirements for an audit shall be stipulated in the contract or work instruction. An audit shall be undertaken within the specified period, but must be undertaken before the contract is signed off. The audit shall be used to identify any non-conformances, for which corrective action is necessary. Corrective action shall take place before the contract is signed	

		off. 6.1.3. The duration of the project should be taken into consideration when budgeting and planning for monitoring activities. Monitoring should be carried out every month. As a minimal monitoring program, fixed point photography shall be done along section where compliance is important (such as ridge lines), as well as at other random but fixed points. These points should be reassessed by the NamPower SHEW Section. 6.1.4. Critical periods during which significant environmental impact could occur are to be identified, and the presence of the NamPower representative (who will co-ordinate with the ECO) during those periods to avoid unwanted impacts is essential 6.1.5. An audit shall be undertaken during bush clearing as well as within a specified period after completion of the work but before the contract is signed off. The audit shall be used to identify non-conformance for which the Contractor shall take corrective action. The auditor may either be internal or external to NamPower. 6.1.6. The contractor shall arrange an inspection with the project manager, who will inform the ECO, for the final inspection of the works. A first inspection will be done on which NamPower will draw up a snag list. Should the same items on the snag list still not be according to NamPower's satisfaction on the second inspection, all direct costs incurred for re-inspection will be on the contractor's account. 6.1.7. External auditors went will be expected to audit compliance to this document and the project specific EMP at scheduled intervals during the construction phase. The Contractors should be aware that Inspectors of the relevant Government Ministries have authority to conduct audits whenever necessary.	

		6.1.8. Monitoring and audit process shall be done in such a way the following can be derived from the final reports: 6.1.8.1. Identification of environmental risk; 6.1.8.2. Development or improvement of the environmental management system; 6.1.8.3. Avoidance of financial loss; 6.1.8.4. Avoidance of legal sanctions; 6.1.8.5. Increase in staff awareness; 6.1.8.6. Identify potential cost savings.	
6.2.	**Closure and rehabilitation**	6.2.1. Where impacts cannot be avoided or mitigated, and in cases where all possible action was taken to avoid and mitigate impact but impacts still occur, management shall aim to rehabilitate the site office, work sites, servitude areas, tracks and other areas disturbed during construction as close to the pre-existing form and function as reasonably possible. 6.2.2. All rehabilitation exercises shall be carried out at the expense of the contractor, unless he can prove (beyond a doubt) that his actions were not responsible for the damage. 6.2.3. The Contractor should rehabilitate areas disturbed during construction as soon as practically possible. Prepare the soils and allowing the natural vegetation to re-establish. Grass cover is fundamental as it is the first step to stabilising the soil. 6.2.4. Rehabilitate erosion gullies in construction working areas using suitable material such as gabions, rock-infill or geotextile fabric. Landscape these areas to provide storm water buffering capacity. 6.2.5. All oils spills still visible after construction activities have ceased shall be cleaned up.	

		6.2.6. All maintenance equipment, surplus materials and temporary structures, fences and works of any kind must be removed from the camping and construction sites. 6.2.7. Break up all bunds and all other concrete slabs and remove these, together with all waste concrete, to a recognised waste site. 6.2.8. Remove all uncontaminated construction rubble (i.e. waste concrete) 6.2.9. Remove all remaining waste to an established waste disposal site. 6.2.10. Where compaction has taken place in disturbed areas, these areas should be ripped and covered with topsoil kept separately for this purpose. 6.2.11. Damaged areas must be rehabilitated. All disturbed areas shall be shaped to the original contours; as close as possible to the natural conditions before construction commenced, including the road reserves, detours, construction camps and temporary access routes. Badly damaged areas shall be fenced to enhance rehabilitation. **6.2.12. At the end of the contract, an environmental clearance will need to be signed off by the site environmental manager (SEM) before the contract can be signed out and the performance bond released. This will not occur until the rehabilitation/clean-up is to the SEM's satisfaction.** 6.2.13. Construction is deemed complete after all works have been inspected, approved and signed off by the SEM, project manager, construction manager and the Contractor.	

7. NON-COMPLIANCE PROCEDURE

The Contractor shall comply with the enviromental specifications and requirements in this document as well as the project specific EMP on an on-going basis and failure on his part to do so, will entitle NamPower to impose a penalty. In the event of non-compliance the following recommended process shall be followed:

- The NamPower project manager shall issues a notice of non-compliance to the Contractor, stating the nature and magnitude of the contravention.
- The Contractor shall act to correct the non-conformance within 24 hours of the receipt of the notice, or within the period that may be specified within the notice.
- The Contractor shall provide the NamPower project manager with a written statement describing the actions to be taken to discontinue the non-conformance, the actions taken to mitigate its effects and the expected results of the actions.
- In the case of the Contractor failing to remedy the situation within the predetermined time frame, the NamPower project manager shall impose a monetary penalty based on the conditions of the contract.
- In the case of non-compliance giving rise to significant physical environmental damage, the Engineer shall be entitled to undertake such remedial work as may be required to make good of such damage, and recover from the Contractor the full costs incurred in doing so.
- In the event of a dispute, difference in opinion, etc. between any parties with regard to or arising from interpretation of the conditions of this document or the project specific EMP, disagreement regarding the implementation or method of implementation of conditions of this document or the project specific EMP, etc., any party shall be entitled to require that the issue be referred to specialists for determination.
- The NamPower project manager or the SHEW Manager shall at all times have the right to stop work and/or certain activities on site in the case of non-compliance or failure to implement remedial measures.

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